

ABSTRACT

An apparatus for the ultrasonic destruction of microbiological contamination of fluids. The process involves subjecting contaminated fluids to ultrasonic vibration so as to cause cavitation within the fluids. The cavitation results in the destruction of microbial cells and mats of microbial colonies. To create cavitation in the fluids a number of piezoelectric ceramic rings surround a metal tube through which the fluids flows. Those piezoelectric rings are immersed in a transmission medium which is pressurized sufficiently to prevent cavitation occurring in it and causing damage to the piezoelectric rings electrodes. This process is applicable to many liquids such as fuels, lubricating fluids, potable and marine ballast waters, dairy products, pharmaceuticals, liquid food products and beverages.